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ABSTRACT

This paper deals with school system size from the standpoint of costs and community involvement. The first section describes findings of recent studies in Oregon, British Columbia, and Manitoba, regarding the relationship between administrative component size and that of the school system, and the relationship between school system size and unit costs. Similar findings for all three jurisdictions reveal that there exists a cost curve wherein costs decrease with increase in system enrollments to a certain optimal point. Beyond that point, costs increase with increases in enrollment. In the second section, some criteria are established for analyzing school systems, and the suggestion is made that insofar as system "bigness" is concerned, three criteria are important: citizen participation in policymaking, program diversity to meet community needs, and flexibility in meeting pressures for innovation. Three case studies of New York, Vancouver, and Toronto are described briefly. (Author/EA)

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THE PERILS OF BIGNESS:

THE CASE AGAINST LARGE SCHOOL SYSTEMS

Peter Coleman

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This paper surveys current information and discussion on the issue of size in urban school districts. Very recently and primarily stimulated by the Bundy Report on decentralizing the administration of schools in New York City, the topic of decentralization has become a major one, and a number of cities other than New York are currently developing and implementing decentralization plans, including Hartford, Minneapolis-St. Paul, Nashville (NSSE, 1969), and Boston, Chicago, Cleveland, Detroit, Newark, and Washington D.C. (Baratta, 1970) In Canada, Toronto has opted for regionalization as opposed to consolidation, so that the local school boards continue to operate schools, (McCordic, 1969) and the Department of Education in Alberta has recently commissioned a study of administrative costs in school districts, as a consequence of a research finding that large school systems have disproportionately high administrative costs. (Winnipeg Free Press, Monday, July 19).

These events suggest that in general large school systems are being viewed with some disfavor at present. There are two main reasons for this: first, there is some evidence that these school systems are more costly, in expenditures per student; at least part of this additional expenditure is consumed by administrative costs which are noticeably higher for large school systems. Second, there is considerable skepticism about the ability of large school systems to retain adequate communications with their staffs and clients; apparently and perhaps in fact large school systems with extensive administrative hierarchies lose contact with the "production" level, resulting in relatively low levels of commitment amongst teachers, and a climate somewhat hostile to diversity and innovation. This is matched by feelings of alienation amongst the parents and students.

It should be emphasized here that the evidence for these propositions is just beginning to appear, and, as always in educational research, is by no means clear-cut and definitive. This paper will review the findings of some of the major recent studies in the areas of costs and community participation, and

attempt to draw some tentative conclusions.

The relationship Between School System Size and Administrative Component Size

There have been a number of studies of the relationship between school system size and the size of the administrative component. The two best-known studies arrived at contradictory conclusions: Terrien and Mills (1955) found that the administrative component grew more rapidly than the overall organization; Gill and Friesen (1968) found that the administrative component declined in size with organization growth.

One explanation for this lack of agreement lies in the element of organizational complexity. Reiss (1970) points out that, if organizational complexity involves internal segmentation, it necessarily also implies the need for additional coordination. Since this coordination is an important part of administration, then beyond a certain threshold size, large organizations with elaborate structures and extensive divisions of labor will require disproportionate increases in the administrative component. (On organizational complexity as a sociological concept, see Anderson and Warkov, 1961 and Hall et al., 1967).

Reiss (1970) in a very through analysis of the relationship between three variables - size of administrative component, size of systems, and complexity of systems - concludes that size and complexity are closely related; that size of administrative components and size of organization are not related; and that complexity of organization and size administrative component are not related.

All of these empirical studies can be considered to suggest one simple conclusion: that the search for statistical regularities in the administration of school systems is doomed, since styles of administration and perceived needs for administration vary widely; put another way, administration is more art than science, and variations in its features from school system to school system result from personal characteristics, historical accidents, and unique clusters of characteristics in the environment of the system.

This general conclusion may not hold in any given time period for any given group of school systems. However, the most recent evidence for western Canada suggests that there is indeed at present a relationship between system size and the size of the administrative component. A study by Holdaway and Blowers (1971) of 41 urban school systems showed that larger systems tended to have proportionately smaller administrative staffs, in general, but that over a five-year period this relationship was not very stable. In other words, this study basically supports the conclusion that variations in the size of the administrative component are not dependent upon variations in system size over a period of time, although at any given point in time a relationship may seem to exist.

One further conclusion can be drawn from the Holdaway and Blowers study, however. Included in their sample was a number of large jurisdictions, such as Vancouver, Calgary, Edmonton and Winnipeg. The findings suggest that when these large jurisdictions are considered the administrative component is disproportionately large. In the step from medium to large school districts, in 5 of the 7 different ratios studied, administrative ratios did not decrease with the increase in size.

Another way of stating this conclusion is that economies of scale may operate in the administration of schools up to some breakpoint. Beyond that point, diseconomies set in. This finding is similar to those resulting from studies of costs of school systems to be reviewed next.

The Relationship Between School System Size and Unit Expenditures

In considering the relations between costs and system size, several assumptions are commonly made. One is that the administrations of the various systems are equally competent. If this assumption is not made then the attempt to discover regularity in variations of size and costs is clearly pointless. Further, one must assume a relatively similar provision of services, within broad guidelines. Frequently, in Canada, such similarities are required by fairly consistent and carefully enforced program and budget guidelines. Further, it is an obvious

assumption that one views school officials and their decision-making as being concerned with similar sets of values; as one writer puts it, "the problem for school officials is formulated to be that of minimizing variable costs for a given enrollment in an educational program of a given content". (Kosobud, 1963: 260) Given all these assumptions, however, the examination of variations in size and costs to determine whether or not there are economies of scale, and at what levels they maximize, is a reasonably defensible undertaking.

One further point should be made before investigating the empirical studies which have been done. Since teachers' salaries represent such a large proportion of operating expenditures, if there are significant differences between salary costs for large districts and small ones, and these costs can be demonstrated to be virtually uncontrollable, the relationship between costs and size would be very substantially affected, and it would not be reasonable to read very much significance in that relationship. However, there does not seem to be any reason to expect size of district to affect salaries paid. One recent Canadian study found that school districts in British Columbia which were operating within budget guidelines established by the Department of Education of the province differed from those exceeding the budget guidelines in several respects, notably in being significantly larger, but that this element of size was not associated with significant differences in teachers' salaries. (Robinson and Sawadsky, 1971: 15,30,34).

The first study to be examined, by St. Louis and McNamara (1970), concerned itself with 142 unified school districts in Oregon, each having more than 100 students enrolled. The model developed for this study was a complex one which took into account many elements making up total school district expenditures. Applied to the data on school district expenditures in the 1968-1969 school year in Oregon, the model suggests that, on average, costs per student decreased with district size up to about 51,000 students and rose above that level, but that in

the range of 40,000 - 60,000 students the variations in costs were very small. The table below presents the specific data.

Average Cost Curve For Oregon Unified School Districts

Average Daily Membership	Average Cost	Average Daily Membership	Average Cost
100	$791.29	50,000	$673.97
500	754.97	51,000	673.95
1,000	749.15	51,500	673.95
5,000	734.72	52,000	673.97
10,000	721.92	55,000	674.42
20,000	703.23	60,000	676.30
30,000	687.75	70,000	684.34
40,000	677.33	80,000	698.08
45,00	674.94	90,000	717.53
47,000	674.38	100,000	742.67
49,000	674.05		

The second study to be described is a Canadian one, (BCSTA, 1971) which presents figures of gross operating costs per student in all British Columbia school districts, in the years 1969-1970 and 1970-1971. These figures are presented at various levels of enrollment. The table which follows is based on figures given in this study.

Mean Gross Operating Costs Per Pupil,
By Enrollment, B.C., 1969-1970 & 1970-1971

Enrollment Ranges	No. of School Districts	Average P/T Ratio 1970-1971	Mean Gross Operating Costs Per Pupil 1969-1970	1970-1971
0 - 1,500	18	20.60	790	817
1501 - 3000	19	21.97	683	732
3001 - 6000	16	22.47	651	693
6001 - 10,000	11	22.73	618	674
10,001 - 15,000	4	23.11	614	659
15,001 - 20,000	2	23.54	593	663
20,001 - 25,000	2	22.43	638	669
25,001 - 30,000	2	22.64	617	666
30,000 +	2	23.98	621	676
Provincial Means		22.82	682	725

These figures suggest that there is in British Columbia also a cost curve, with the level of minimal costs being in the 15,000 - 20,000 pupil range. The reduction of costs up to that level of enrollment, and the subsequent rise again beyond that level of enrollment is quite apparent in the table, as is the apparent significance of pupil-teacher ratios, which parallel cost changes very closely. The two largest districts in British Columbia, while managing to achieve good pupil-teacher ratios, nevertheless face costs significantly higher than those of districts closer to the optimal level.

The cost-curve for Manitoba differs again, at least as it is suggested by the table which follows, from MAST (1971). Costs seem to decrease to around the 4,000 student mark, and rise sharply above that point. In contrast to the British Columbia figures, large districts in Manitoba seem to spend a great deal more than small ones. A very simple generalization seems appropriate from the Manitoba figures: the larger the system, the more expensive it is to operate.

In addition, it seems that the optimal size for school districts in Manitoba is very much smaller than for Oregon and British Columbia.

Average Operating Cost Per Student in Manitoba Unitary School Divisions, 1969 - 1970, By No. of Authorized Teachers

No. of Authorized Teachers	No. of Divisions in Grouping	Average Student Enrollment	Pupil Teacher Ratios	Average Operating Costs Per Student
0 - 100	8	1,817	20.2	$503.66
101 - 150	14	2,705	20.8	493.15
151 - 200	7	3,926	21.5	485.50
201 - 300	4	5,638	20.6	554.47
301 +	7	15,691	20.2	610.87
Provincial Totals	40	217,139	-	-
Provincial Averages		5,428	20.5	563.57

For the Manitoba figures the most interesting question raised may be: what elements in the Manitoba context lower the optimal size to around 4,000? The figures included here for student-teacher ratio suggest that one important element in economies of scale in British Columbia does not operate in Manitoba in the same way. The improvements in pupil-teacher ratio stop far short of the British Columbia level of about 15,000 enrollment. This paper, which is concerned with large urban districts, will not attempt to answer this question.

One further point can be made, regarding the costs of large systems. The previous section suggested that large school systems spend higher proportions of their budget on adminstration than small or medium districts. The general tendency for Manitoba school divisions to spend more on administration than British Columbia school districts has been pointed out in a previous paper (Coleman & Stern, 1971). Some figures can be given to illustrate the effects of

administration costs on the budget of large school systems in British Columbia and Manitoba. (These figures are adapted from BCSTA, 1971).

Average Operating Costs Per Pupil By Enrollment
And Budget Category in B.C. School Districts, 1970 - 1971

Note: Only 4 of 6 budget categories are included here. Total is thus not equivalent to gross operating costs.

Enrollment Ranges	No. of School Districts	Administration $	Administration %	Instruction $	Instruction %	Operation & Maintenance $	Operation & Maintenance %	Total $	Total %
0-1,500	18	56	7.4	560	73.8	139	18.3	759	100
1,501-3,000	19	37	5.5	528	78.8	104	15.5	670	100
3,001-6,000	16	38	5.6	535	78.6	106	15.6	681	100
6,001-10,000	11	30	4.6	513	78.7	106	16.3	652	100
10,001-15,000	4	33	4.9	529	79.1	105	15.7	669	100
15,001-20,000	2	31	4.9	502	78.8	103	16.2	637	100
20,001-25,000	2	26	4.0	543	82.5	90	13.2	658	100
25,001-30,000	2	21	3.2	523	80.3	106	16.3	651	100
30,001 +	2	37	5.6	525	79.3	99	15.0	662	100

These figures suggest that in British Columbia economies of scale are effective in reducing the percentage of the budget spent on administration, except in large (30,000 +) districts. This of course supports the conclusions of the previous section.

In Manitoba the situation is again somewhat different. The same curve of costs shows up, but at far lower enrollment levels. Once again, as in B.C., the largest districts encounter rising percentages of administrative costs. The effect is more severe than in B.C., however. In Manitoba the largest systems encounter percentages in excess of those of the smallest systems; in B.C. the largest systems

encounter percentages roughly equal to those of the small (but not smallest) systems.

Average of Costs Per Pupil by Enrollment and Budget Category in Manitoba Unitary School Divisions, 1969-1970

No. of Teachers	No. of Divs.	Av. Enroll.	P/T Ratio	Admin. $	Admin. %	Instruction $	Instruction %	Oper. & Mainten. $	Oper. & Mainten. %	Total $	Total %
Up to 100	8	1,817	20.2	44.79	8.9	398.39	79.1	60.48	12.	503.66	100
101-150	14	2,705	20.8	42.24	8.6	391.25	79.3	59.66	12.1	493.15	100
151-200	7	3,926	21.5	46.04	9.5	383.08	78.9	56.38	11.6	485.50	100
201-300	4	5,638	20.6	51.55	9.3	443.26	79.9	59.66	10.8	554.47	100
301 +	7	15,691	20.2	63.18	10.3	475.13	77.8	72.56	11.9	610.87	100
Averages		5,428	20.5	55.58	9.9	439.44	78.0	68.55	12.1	563.57	100

A number of cautions and comments seem appropriate at this point. First, these figures for various jurisdictions represent the outcomes of a great many decisions taken by a great many people,working in a specific context of providing programs, observing guidelines and regulations established by state or provincial Departments of Education, and attempting to control costs. The regularities observable in the figures suggest very strongly that the variations are not the outcome of unique situations, and human variability, but that, given the context, the decisions and the cost outcomes are predictable. The fact that the cost curve varies for the three jurisdictions is probably more revealing of the decisional context, then, than of the relative competence of the various decision-makers.

Second, it is quite apparent that some school systems provide more extensive services than others; these services may add significantly to costs.

Third, interpretation of the comparisons made here between jurisdictions, and within jurisdictions, should be kept to a minimum until more sophisticated analyses of the data here are available.

One conclusion seems defensible, and it parallels that already stated in the previous section: large school systems seem prone to high levels of cost per student. (The definition of large differs depending on the jurisdiction). As a consequence, the development, by consolidation or amalgamation, of large systems should be undertaken with caution, if at all.

Criteria for School Systems

The first part of this paper has surveyed recent research and discussion on the issue of size, and more specifically on the question of optimal size of educational organizations from a financial viewpoint. This second section of the paper will examine the question of optimal size from a somewhat different viewpoint. The discussion will concern two main topics, program values and consumer values. In this respect, the analysis proposed here is based on Cunningham's (1968) criteria for building metropolitan educational systems. His criteria fall into three main areas, program, finance and consumer interests, and were originally developed as part of a study of a merger proposal for large city and adjacent school districts in the United States (1966).

The Cunningham criteria can be stated in summary thus:

Program Values

1. Program diversity to match educational needs of children.
2. Structural flexibility to achieve economies of scale.
3. Optimal flexibility in program innovation.
4. Placement of program decision-making at the community level.

Financial Values

1. Efficient accumulation of resources.

2. Equalization of tax effort.

3. Differential distributions of resources.

4. Placement of budget decision-making at local level.

5. Achievement of economies of scale in financial operations.

Consumer Values

1. Citizen participation in educational policy formation.

2. Responsiveness to varying consumer demands for education.

It will become obvious that the various values suggested above overlap to a considerable extent. Two or three general propositions emerge from them however: first, the desirability of creating a flexible administrative structure which allows at the same time local decision-making regarding educational policy, programs needed and appropriate finance levels; second, the development of large scale structures to take advantage of economies of scale in such areas as purchasing and transportation; third, the maintenance of a good deal of flexibility within the structure.

To return to the main theme of this paper, the perils of bigness in educational systems, it can then be pointed out, in the context of these criteria for excellence in educational organization, that the non-financial weaknesses of large systems are likely to be in the areas of low levels of citizen participation in policy-making of various kinds, relatively low levels of diversity and appropriateness of program to student needs, and relatively low levels of flexibility in response to the need for innovation.

The financial weaknesses will not be further considered here, since they mainly stem from inadequate equalization formulae, and can best be discussed in that context, rather than in connection with the size issue. Additionally, there is a major distinction between U.S. and Canadian practice here. In the U.S., in metropolitan areas, as much as 90% of school revenue may proceed from local

property taxes (Alkin, 1968); in Canada, in 1967, only 42% of expenditures were raised by local taxation, and this percentage has not much varied in the last decade. (DBS, 1971)

Some Case Studies

The extent to which low levels of participation in educational policy-making, of diversity in programs, and of flexibility in coping with innovation are in fact issues in large school systems can perhaps best be ascertained by examining some specific cases. Three large systems which have been recently described in relation to these issues in the educational literature, New York, Vancouver, and Toronto, can be considered briefly here.

The New York case is certainly the most familiar of these, and will be treated very briefly here. Some of the perceived weaknesses of the New York school system are suggested by the directions given to the Mayor's Advisory Panel on Decentralization of the New York City Schools, (1969). The panel was expected to

> formulate a plan for the creation and redevelopment of educational policy and administrative units within the city school district of the city of New York with adequate authority to foster greater community initiative and participation in the development of educational policy for the public schools...and to achieve greater flexibility in the administration of such schools...

After very extensive staff studies and hearings with lay and professional people, the panel suggested the following as objectives:

> Increase community awareness and participation in the development of educational policy closely related to the diverse needs and aspirations of the city's population,
>
> Open new channels and incentives to educational innovation and excellence,
>
> Achieve greater flexibility in the administration of the schools,
>
> Afford the children, parents, teacher, other educators, and the city-at-large a single school system that combines the advantages of big-city education with the opportunities of the finest small-city and suburban educational systems, and

> Strengthen the individual school as an urban institution that enhances a sense of community and encourages close coordination and cooperation with other governmental and private efforts to advance the well-being of children and all others,
>
> All with the central purpose of advancing the educational achievement and opportunities of the children in the public schools of New York City...

The panel then proceeded to recommend 16 changes in the organization of the New York City schools to achieve these objectives. A very brief summary of these is given here, generally not in the words of the original report.

A. A federation of autonomous school districts ranging in size from 12,000 to 40,000 pupils, "large enough to offer a full range of educational services and yet small enough to promote administative flexibility and proximity to community needs and diversity, should be created."

B. The school districts should have general authority over education within their boundaries; a central education agency should have responsibility for special education and city-wide educational policies, and would also provide certain centralized services to the districts at their request.

C. The community school districts should be governed by boards of education.

D. School districts should receive an allocation of operating funds from the central agency.

E. All personnel matters should be within the scope of the districts.

F. The community school boards should establish procedures and channels for the closest possible consultation with the members of the community and with the professional personnel.

The Bundy Report then proceeds to give the data on the performance of the school system which leads to the recommendations made.

Another study of the New York school system gives some further indication of the limited access to policy-making powers available to laymen in the school system. The study begins by pointed out that

> Almost every study of power in large cities points to functional specialization, dispersion of power to specialists in particular areas, and an increased role of the bureaucracy in decision-making. This study of decision-making in the New York City school system concerns itself with the distribution of power, testing the hypothesis of function of specialization and, hopefully, expanding on its implications. (Gittell, 1967)

In general this study finds that New York City is in essence a closed system insofar

as policy formation is concerned; effectively in most kinds of decisions only the professionals participate.

> The findings of the study emphasize that, in the last two decades, education in New York City has become amazingly insulated from public control. One could accurately describe the situation as an abandonment of public education by key forces of potential power within the city. Bureaucratization and professionalization are contributing factors...the result is narrow or closed participation in large areas of decision-making. Effective influence in these areas is restricted to an inside core of top supervisory personnel in the headquarters staff of the Board of Education. Policy alternatives are rarely discussed or offered, and the inclination to support the status quo is reenforced.

Thus the New York case seems to support rather convincingly the view that large school systems restrict participation and diversity. The studies quoted so far do not speak to the issue of flexibility in coping with innovations directly; however, yet another study, by Gittell et al. (1967), found in six large-city school districts, "a static, internalized...system which has been unable to respond to vastly changing needs and demands of large-city populations." (208) Additionally, this study found that, "Innovation can only be achieve as a result of strong community participation, with the power to compel both new programs and expenditure increases necessary to finance them." (208)

Some discussion of the procedure of the study of the Vancouver school system (Erickson, Hills & Robinson, 1970) is necessary to relate it to the concepts being discussed here. The consultants attempted, by a series of interviews, to identify the problems of the school system from the viewpoint of various participants. A general finding, at this point, is of interest:

> On one point there is widespread agreement among all categories of personnel. Although they perceive the problem in different forms, and identify different causes, teacher, principals, consultants, school board personnel and trustees find themselves too little in control of the factors on which effective performance depends to perform their functions well. (1-30)

The consultants characterize the primary problem as a "vast understanding and communication gap." They attempted to establish an Instructional Flexibility Scale, for the following reasons:

The question of flexibility within a school sytem is part of the larger question of the reconciliation of universalistic demands and particularistic demands within organizational contexts. The individual demands particular consideration; but what he receives is determined largely by universalistic rules set by the organization. A branch unit of a large organization claims its needs are unique; but the treatment it receives is determined by the head office. In virtually every organizational context there thus exists an individualistic press for particularism which is countered by an organizational press for universalism.

In education, "particularistic-universalistic press" competition is more pronounced than in almost any other field of social endeavor. This press competition manifests itself at every level of an educational system. The particularistic demands of children compete with the universalistic demands of the school; the particularistic demands of the schools compete with the universalistic demands of the school district; and the particularistic demands of school districts compete with the universalistic demands of the central authority at the provincial or state level.

A number of studies of large urban school systems have suggested that it is at the local school level where strains associated with univeralism and particularism are most pronounced. In any large school system there exists a demand for system-wide uniformity on a large number of matters. Competing with this demand for uniformity is the demand of each school in the system for recognition of its unique needs. Thus, a large portion of this study was concerned with examining how schools coped with district universalistic demands and in what ways they attempted to meet their own particularistic needs.

Conceptually, instructional flexibility represents a response to certain particularistic needs. At the classroom level, instructional flexibility represents a response to the particularistic needs of students; at the school level, instructional flexibility represents a response to particularistic needs of intraorganizational groups (e.g. administrators, teachers, students) and extraorganizational groups (e.g. parents). (3-12)

The three systems studied showed no variance in instructional flexibility. Within the Vancouver system, individual schools showed significantly high levels of flexibility, associated with high levels of collegiality amongst staff and a "maverick" principal. (5-19)

A firm conclusion regarding the Vancouver findings is not possible, due to methodological and other limitations of the study described by the consultants. However, the general particularistic/universalistic thesis seems supported, and as a consequence it seems fair to conclude that the Vancouver study suggests that large systems are likely to stifle instructional flexibility by an overemphasis on decision-making in the central office. A final important point about this study: the fact

that the three systems studied did not significantly differ in overall level of flexibility may be important. One system, a separate school system, contained only 818 teachers. This would not be considered "large" by most educators. There may be special reasons, associated with the denominational nature of the system, for its sharing the flexibility level of much larger systems. However, this might also suggest that flexibility is not quite so closely tied with size as is normally assumed. A comparative study, using the Instructional Flexibility Scale, of a number of districts of varying size would be very valuable.

Toronto's metropolitan approach to school district organization was conceived as a response to the need for flexibility in the administration of education.

> Schools today require greater flexibility and versatility. Each must have the capacity to appreciate and understand the special problems of its students, and must have the resources to develop programs suited to their needs: one standard format for all - for the rich and the poor, for the bright and the dull, for the sick and the healthy, is not acceptable. It is this need to reflect the infinite complexity of individuals that makes the operation of schools different from the provision of other municipal services, such as hydro, roads, sewers, fire and police protection... the single most important feature of an education system is its ability to assess and respond quickly and sympathetically to the various constantly changing needs of its individual students. In a large city this "grassroots" sensitivity is frequently lost as the administration becomes more centralized and farther removed from the classroom. If a viable education system is to be maintained this deterioration must not be allowed to occur, and the present two-tiered administrative system that is operating in metropolitan Toronto is an attempt to avoid the paralyzing effect of overcentralization.
>
> The Metro experiment leaves local schools administered by a number of local school boards, each one small enough in size to remain in touch with the needs of the community served by its schools. Representatives from each of these local boards then come together at the metropolitan level for purposes of overall planning and finance. This process attempts to ensure equal, though not necessarily identical, educational opportunities for all children across the entire metro area, while at the same time maintaining a sensitive and flexible approach to the unique needs of each district in the area. (McCordic, 1969: 108)

Clearly this system is an attempt to cope with the problems identified in the Vancouver study, as well as those described as characteristic of New York City. To restate these, the characteristics of large educational systems identified as low levels of citizen participation in decision-making, low levels of diversity

and appropriateness of programs, and low levels of flexibility in the face of innovation are the main topics of concern.

The basic principles of the Toronto experience are as follows (McCordic, 1969: 118):

> 1. Lay, community control of education is desirable, and should result in a diversity of programs to meet local demand. (On variability of demand for education, see Alkin, 1968, on "Median Years of Schooling" as a "proxy" or indicator of demand).
>
> 2. Discrepancy in the ability to finance education makes integration of financing necessary.
>
> 3. To make certain that the metropolitan board does not become dominant, it should be composed almost entirely of trustees from the local districts.
>
> 4. A standardized system of accounting is necessary, and may take the form of program budgeting, which will allow maximum freedom for the local authorities.
>
> 5. Foundation programs basically restrict diversity, so the financing system in a metropolitan scheme should be more flexible than foundation programs generally.

A final judgment on the Toronto plan, admittedly by someone closely involved in it, (McCordic is the chief administrative officer of the metropolitan Toronto school board) is as follows:

> There is no guarantee that this plan, which at the moment seems to be going well, will continue to fulfill current expectations. Nevertheless it has demonstrated that consolidation of finance can lead toward equality of educational opportunity, without necessitating the surrender of significant autonomy by existing local units. There seems no obvious reason why a similar format might not be equally successful elsewhere. (McCordic, 1969: 120)

These case studies suggest that there is at present keen concern in a number of different jurisdictions about the relationship between size and the quality of services to clients provided by educational systems. In general there seems to be agreement that existing large systems need to be decentralized, and that further consolidations in metropolitan areas are undesirable. Federation proposals are common in the literature. A recent work (NSSE, 1968) describes 4 other case studies all resulting in the recommendation of a federated system. This is also a recommendation of a Royal Commission Report on Winnipeg, Local

Government Boundaries Commission,(1970: 81). This unanimity is impressive.

One alternative proposal, which does not arise from a case study but from a consideration of the problem in general terms is proposed by Alkin (1968).

> The necessity of maintaining school units which are reasonably comparable, both as to (a) the financial resources made available on the local basis and (b) those social characteristics of the community which bear relationship to greater educational needs, has been pointed to throughout this chapter. The typical school reorganization plan of unifying existing districts, although reducing financial inequities within a relatively small geographic area, has little effect on the total metropolitan regions... one way to achieve the objective of comparability of financial resources and educational needs among school districts is to reorganize school districts in such a way that they will include both segments of the central city and portions of surrounding suburbs. (134)

Alkin proposes this reorganization technique, which can be perhaps best described as replacing concentric circles, inner city plus outer suburb patterns, with pie-shaped slices, that is a segment of the inner city being associated with a segment of the surrounding suburb, as an alternative to a metropolitan or federation scheme. Perhaps the central argument is the desirability of competition between school districts.

> Competition among school districts of similar stature must be encouraged because competition attributable to the presence of similar school systems in a common geographic area, attacking problems in diverse ways, is responsible for much of the current change in education. The demonstration effect of the introduction of innovations into systems along with the success or failure of these innovations is one of the vital forces bringing about educational change. (134)

However, Alkin seems to allow the metropolitan version already described almost equal attractiveness to his proposal, on the grounds that it too would encourage competition among school districts.

Thus the general conclusion of this section is statable: Consolidation proposals for metropolitan areas, which would result in large school systems, are currently unpopular. Instead, most current case studies of the problems of existing large school systems propose the decentralization or breaking up of these systems into districts, with some residual services being provided by the central office. For non-consolidated metropolitan areas, proposals are almost invariably

for a federation of existing school districts, with a central office providing primarily planning and financial services, and with the local school districts being responsible for the provision of educational programs. In essence, the Toronto plan already described seems precisely in line with recommendations made in many cities throughout North America in the last ten years.

Conclusions and Implications

The studies reviewed above on economies of scale and the difficulties of ensuring flexibility, diversity, and citizen participation in large shcool systems might well lead the reader to conclude that the selection of an appropriate size of administrative unit in education for metropolitan areas is a relatively simple matter. It would seem to be a question of identifying the smallest unit which would give reasonable economies of scale, establishing this as the basic unit and then ensuring cooperative carrying out of services for which larger scale units are desirable. However, there are a good many questions which remain to be answered before such a relatively simple procedure could be recommended to educational authorities.

The first of these is the question raised in the first part of this paper, regarding the large variance between optimum size units in different jurisdictions. A full and careful analysis of why optimum units in Manitoba are in the 4,000 students enrolled range is surely a desirable precursor to any advice regarding the optimum size of unit for any jurisdiction.

The second question concerns relationships between programs and costs. Clearly, apparent economies of scale, such as have already been illustrated could be caused by decisions made by individuals, and groups of decision-makers, to narrow and restrict programs with increases in size in the administrative unit, so as to control costs. The likelihood of a large number of decision-makers arriving at this technique, with its implications of the sacrificing of educational

programs for the sake of economy, may seem small, but until it can be conclusively shown that this is not the reason for apparent economies of scale, it should surely be considered to have some weight. In British Columbia the very thorough study of the determinants of budget levels already referred to back at Robinson and Sawadsky (1971) has probably already determined that this is not the case for that jurisdiction. Limitations in programs and in other kinds of expenditures have been shown in that study not to have a significant effect upon differentials between costs in various districts. However, such a study has not been done in Manitoba, for instance, or in Oregon, so far as the writer is aware. One further point can be made: large school systems are generally associated with cities, and cities, at least in the U.S., have been shown to have special problems, and hence costs. (Benson, 1968: 321-327)

The third question deals with the second part of the study. The differential levels of citizen participation in policy-making between large and small school districts remains at this point an assumption. It has not been shown to exist in any significant study, again within the knowledge of the writer, and until such time as it does receive empirical verification, the decentralization and federation proposals currently in vogue may seem rather naive. If it does turn out to be the case that size is not an important determinant of, or is not even associated with, citizen participation in policy-making, such reorganization and decentralization proposals may turn out to be, although well-intentioned, ineffectual. A similar point could be made regarding diversity of programs, and flexibility in the face of innovation. The point has already been made with regard to the Vancouver study, that no comparative studies of school systems of varying size have so far as is known yet been done, so that the view that Vancouver has a relatively low level of flexibility remains unsubstantiated. It may be that the result of a thorough empirical study would show that Vancouver has a higher level of flexibility than other smaller systems. Or

again it may well be that school system size and flexibility are not associated. A similar point could be made with regard to diversity of programs offered.

Perhaps as a final word it can be pointed out that hypothetically there is little reason to believe that citizen participation, diversity of program, and flexibility are negatively associated with size. Studies of organizations other than schools have tended to support the opposite notion, that large organizations in which staff members and professionals can achieve a measure of anonymity or invisibility are in fact quite productive of participation, diversity, and flexibility. The best theoretical statement is perhaps Downs' (1967) discussion of control problems in large organizations. Studies of goal displacement because of conflicts between organizational and individual goals (Berelson & Steiner, 1964: 366), of distortions of cummunications flowing up and down bureaucratic hierarchies (Downs, 1967: 133,134; Moore, 1962: 61,62), development of informal structures (Berelson & Steiner, 1964: 370-372), would all tend to support the view that large organizations allow diversity and flexibility. Once again it is not sufficient to argue that because other large organizations seem to show this characteristic it will also turn out to be the case with shcools. But the fact that this seems to be the case with large organizations in other areas should certainly serve as a caution against assuming without empirical evidence that large school systems are hostile to this trio of values.

Finally, in conclusion, it is probably necessary to say once again as in so many issues in education that the case is simply not proven (Benson, 1968: 61); that in fact we cannot be sure at present whether or not large school systems in various jurisdictions do encounter diseconomies of scale because they are at enrollment levels beyond optimum, and whether or not such large school systems do indeed restrict citizen participation by centralizing decision-making, restrict program diversity by centralized decision-making on programs and curricula, and

restrict innovation by insistence on a rigid chain of command and once again centralized decision-making. The fact that a large number of school systems have assumed the hypothesis to be proven should not deter empirical investigation nor should it have a bandwagon effect on intelligent educational decision-makers elsewhere. The only reasonable conclusion is that most common of all in education - more research is necessary.

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